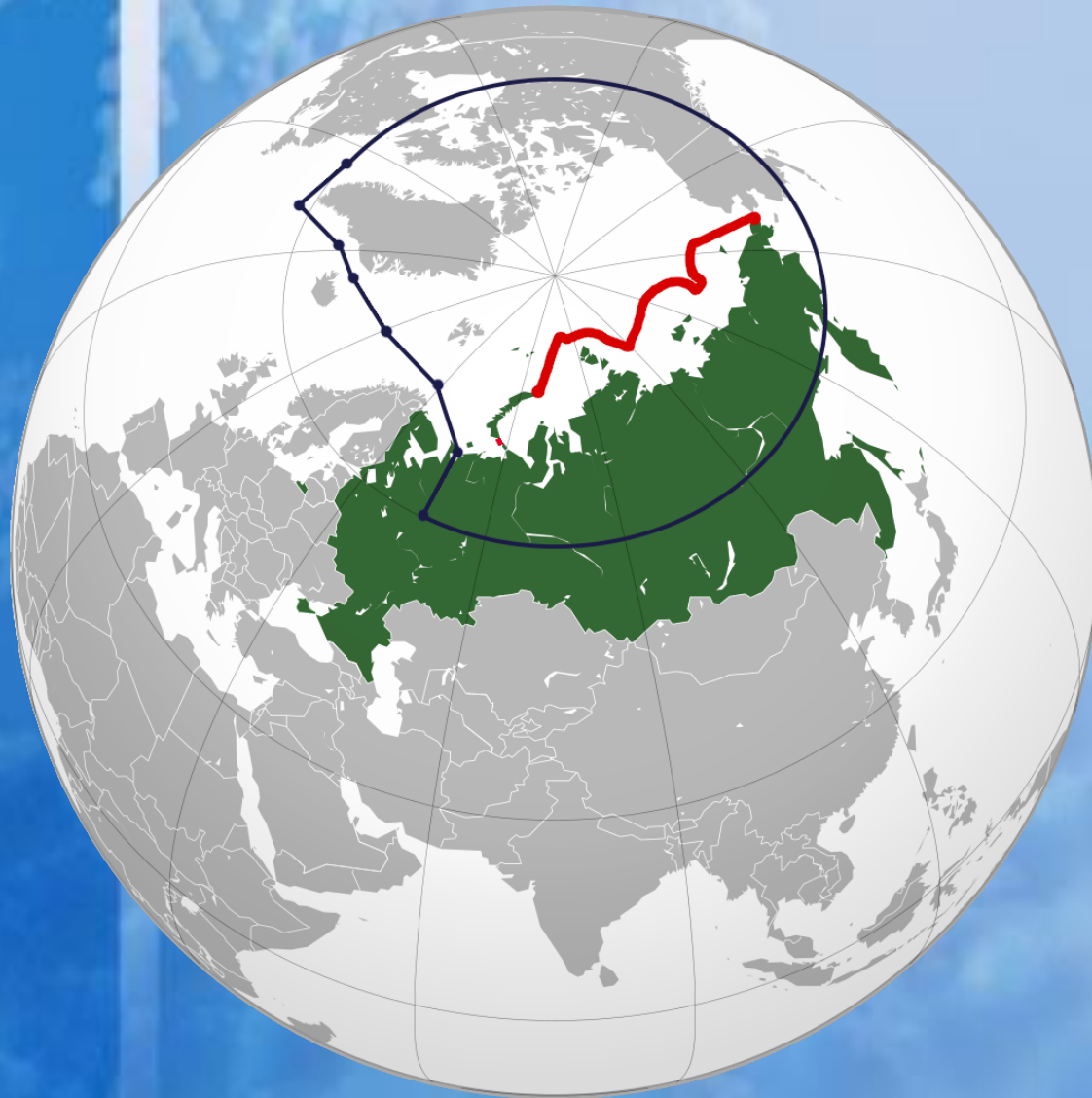


Polar Code Implementation in Russian Federation

Administration of the Baltic sea ports
Vladimir E. Kuzmin

**Northern Sea Route as a part of Russian polar
waters within Polar Code area**



Polar Waters

Northern Sea Route area

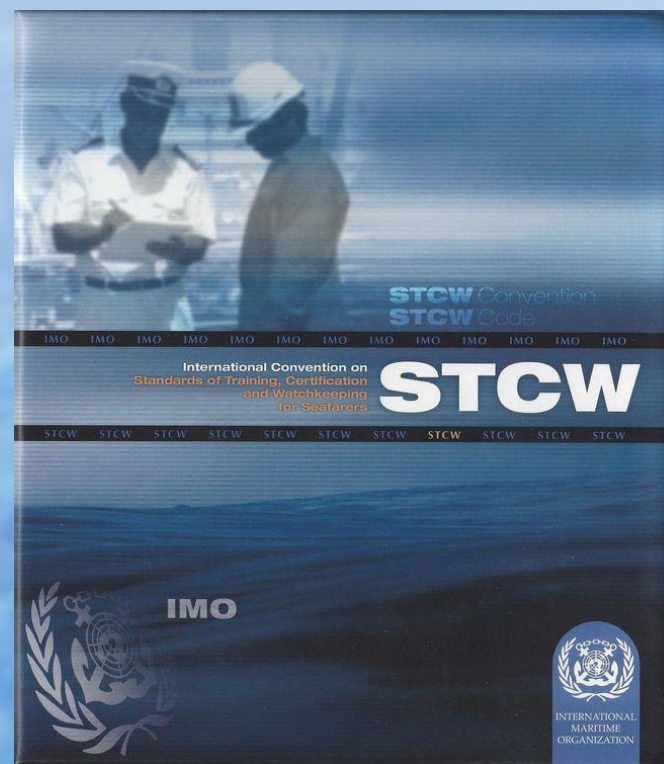
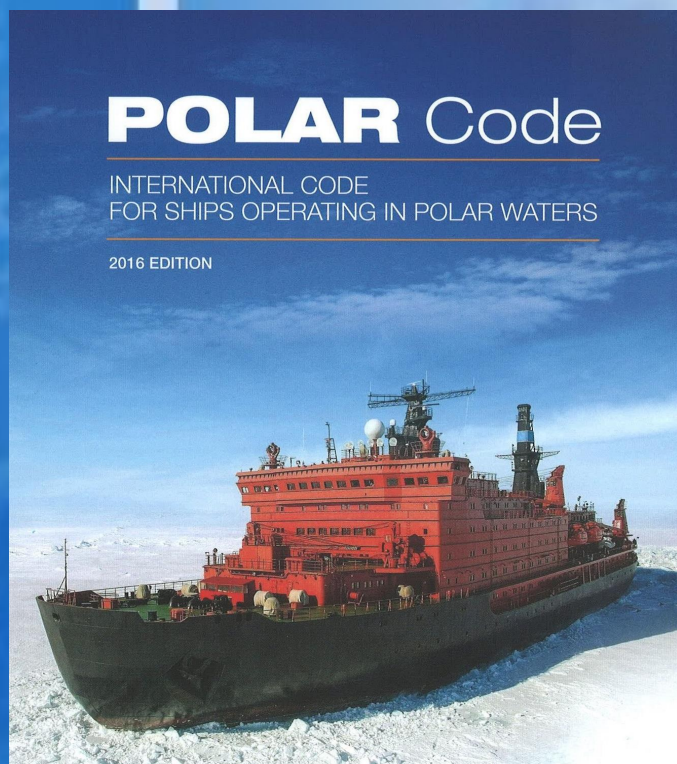
Russian Federation

Polar Code



National Regulation, Navigation Rules in the Northern Sea Route Area

107 permissions were issued to ships
flying foreign flag in 2017



APPROVED
by the order of the Ministry of
Transport of Russia
dated January 17, 2013 № 7

RULES of navigation in the water area of the Northern Sea Route

I. General

1. Rules of navigation on the water area of the Northern Sea Route (hereinafter referred to as Rules) were developed in compliance with items 2 and 4 of article 5¹ of the Federal Law dated April 30, 1999, № 81-ФЗ (FL) "Code of commercial navigation of the Russian Federation"¹⁾ (hereinafter referred to as CCN) and item 5.2.53.12 of the Provision on the Transport Ministry of the Russian Federation approved by the Decision of the Government of the Russian Federation dated July 30, 2004, № 395²⁾ and establish the order of the organization of navigation of ships in the water area of the Northern Sea Route, rules of the icebreaker assistance in the water area of the Northern Sea Route, rules of the ice pilotage of ships in the water area of the Northern Sea Route, rules on the track assistance of ships in the water area of the Northern Sea Route, provision on the navigational-hydrographic and hydrometeorological support of the navigation of ships on the water area of the Northern Sea Route, rules of the radio communication of the navigation of ships in the water area of the Northern Sea Route, requirements to ships in relation to the safety of navigation and protection of the marine environment against the pollution from ships, other provisions relative to the organization of the navigation of ships in the water area of the Northern Sea Route.



FEDERAL AGENCY FOR
MARITIME AND RIVER
TRANSPORT

MINISTRY OF TRANSPORT OF
RUSSIAN FEDERATION

FEDERAL STATE INSTITUTION
THE NORTHERN SEA ROUTE ADMINISTRATION

«Permission granted» way of navigation
in the NSR waters

In 2017 issued - 662 permissions

107 permissions were issued to ships
flying foreign flag

7 vessels flying foreign flag were in breach of
regulations : Netherlands, United Kingdom,
Luxembourg and Sierra-Leone.



Aprons in 2017 NSR
Aprons in 2016 NSR
Aprons in 2015 NSR
Aprons in 2014 NSR
Aprons in 2013 NSR

Search for the vessel

No in results order	Vessel's name	Shipowner	Flag	Ice class	No of outgoing application	No of incoming application	Date of application acceptance for consideration
1	Vladimir Rusanov	DY Maritime Limited	Hong Kong	ARC 7	01	1	2018-01-12
2	Christophe De Margerie	ZELITKO SHIPPING COMPANY LIMITED	Cyprus	ARC 7	001	2	2018-01-17
3	Ice Hawk	ICE HAWK INC.	Libenia	ARC 4	n/a	3	2018-01-22
4	Ierak	SPITSBERGEN INC.	Libenia	ARC 4	n/a	4	2018-01-22
5	Vladimir Rusanov	DY Maritime Limited	Hong Kong	ARC 7	02	5	2018-01-26
6	Weichselstein	MT Weichselstein Schiffahrtsgesellschaft mbH & Co. KG	Portugal	ARC 4	n/a	6	2018-01-31
7	Arctica-1	Reskom-Tyumen LTD	Rossia	ARC 5	0207-F	7	2018-02-01
8	Arctica-2	Reskom-Tyumen LTD	Rossia	ARC 5	0206-F	8	2018-02-01
9	Alic ym	ООО "РОЗУЭЛ АРКТИК"	Rossia	ARC 5	1	9	2018-02-05
10	Alic Kongoor	ООО "РОЗУЭЛ АРКТИК"	Rossia	ARC 5	2	10	2018-02-05
11	Полар Клер	ООО "ЭКО ШИПИНГ"	Rossia	ARC 5	6/n	11	2018-02-05
12	Eduard Toll	Teakay Shipping Limited	Bahamas	ARC 7	13-GAC-M	12	2018-02-05
13	Volgastem	MT Volgastem Schiffahrtsgesellschaft mbH & Co. KG	Portugal	ARC 4	n/a	13	2018-02-08
14	Вальтер	ВМР "Морская транспортная служба"	Rossia	Icebreaker	CEM-176	14	2018-02-07

Send the application online

Vessel's name:

Shipowner:

Your E-mail address:

Number of outgoing application:

Attached files:

Send

Выбрать файлы | Файл не выбран

Date:



Urgent information | Non compliant vessels

Crew Training required by the Polar Code



Training of Russian crews is already effected by our Maritime Universities



MINISTRY OF TRANSPORT
OF THE RUSSIAN FEDERATION

Ensuring compliance of Russian vessels to Polar Code requirements

Checking the ship compliance with Polar Code requirements is effected by RO

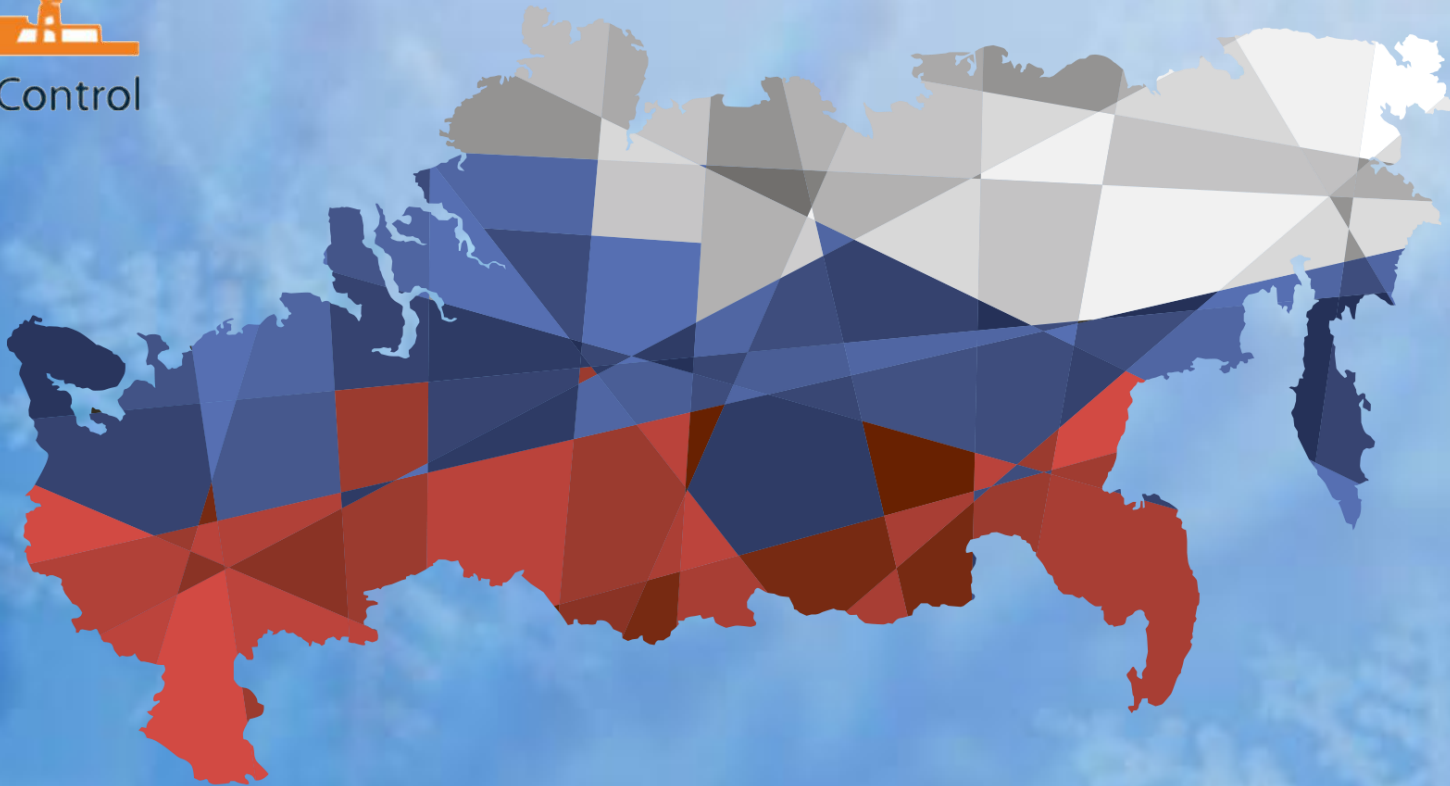


Port State Control

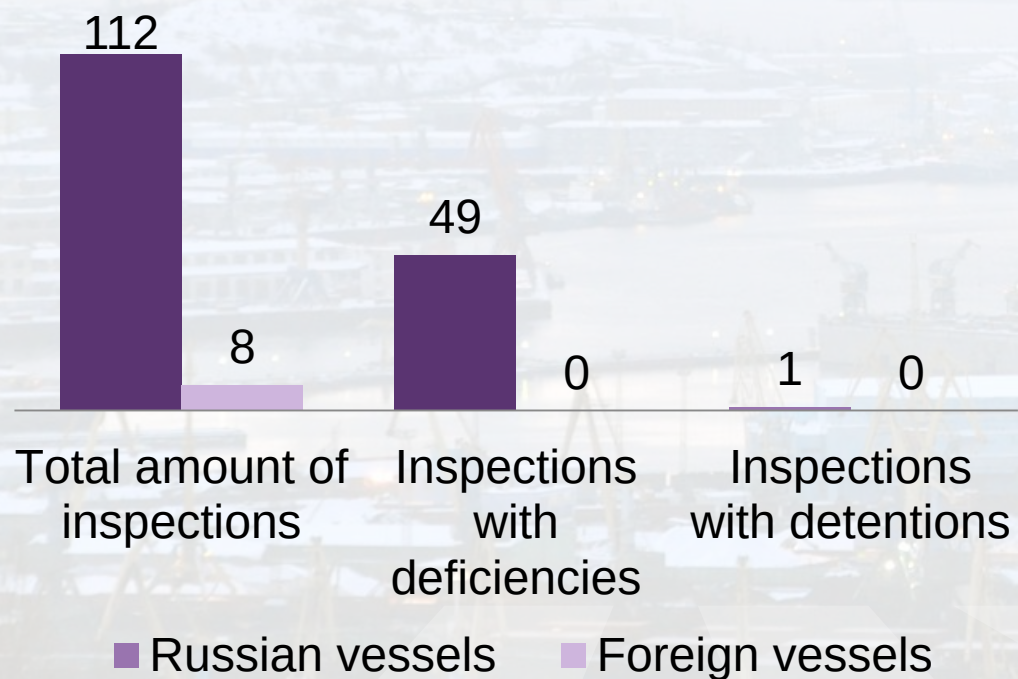
Paris MoU



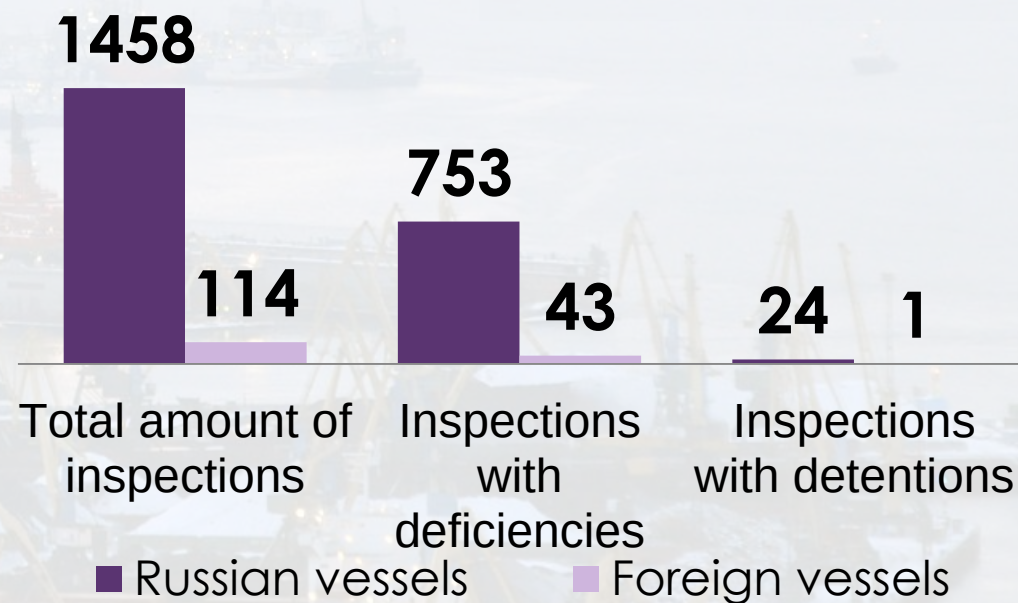
on Port State Control

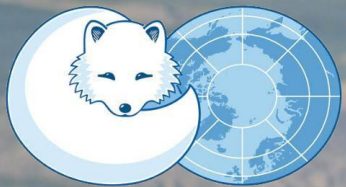


Port State Control in sea ports of Russian Federation
in Arctic zone within the Polar Code area



Port State Control in sea ports of Russian Federation
in Arctic zone outside of the Polar Code area



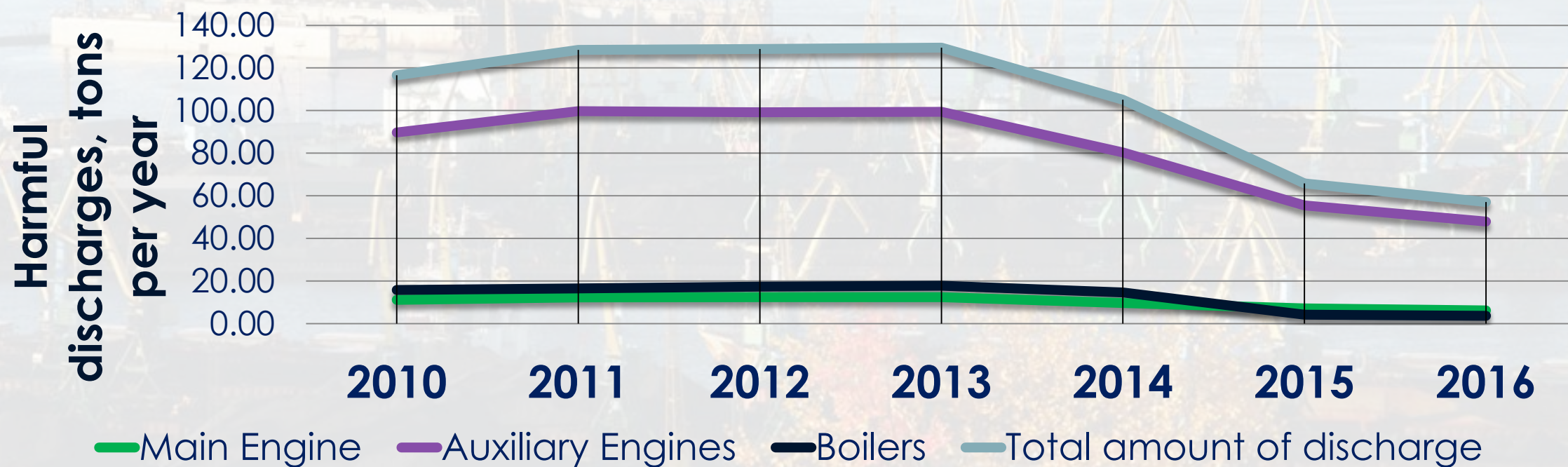


ARCTIC COUNCIL

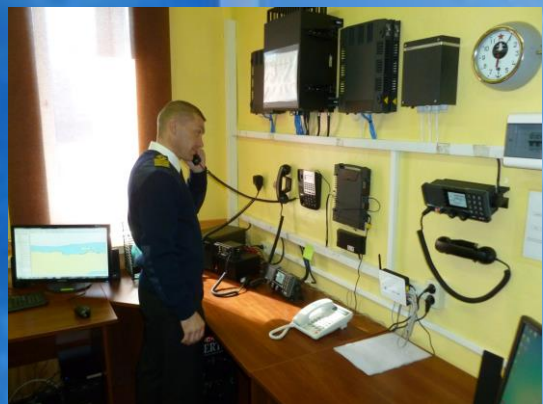


Analysis of discharge dynamics
from ships

Amounts of harmful discharges from bulker ships in Murmansk merchant port



Bases of SAR and points of their location



SAR in the Arctic area



Search and rescue in the NSR waters is done by special service – Morspassluzhba (Морспасслужба Росморречфлота) using multifunctional search and rescue vessels with high ice class and with use of nuclear icebreakers.

**Sabetta terminal is a driver for development of
port infrastructure in Arctic**



Expected cargo turn-over for Sabetta:

LPG – 16,5 mln. ton/year;

LNG – 1,35 mln. ton/year;

Input into operation:

2017 – 6 mln. tons,

2018 - 6 mln. tons,

2019 – 5,85 mln. tons

Increase in capacity upto - 30 mln. tons,
including:

LPG – upto 25 mln. ton/year;

LNG – upto 2,2 mln. ton/year;

Petroleum – 3,5 mln. ton/year.

Completion of project – 2019.



#PSCReady

#VesselsReady

#CrewReady

#NationalRegulationsReady

#SARReady

#SeaportsReady



POLAR Code

INTERNATIONAL CODE
FOR SHIPS OPERATING IN POLAR WATERS

2016 EDITION





BUT WHAT ABOUT OTHER COUNTRIES?

MASTER'S ICE CERTIFICATE

The Government of Panama
certifies that this Certificate issued to:

captain **SANCHO GONZALES**

is valid for any trade in any ship in icy
waters.

Issued in Panama, Cristobal
on February 10, 2006

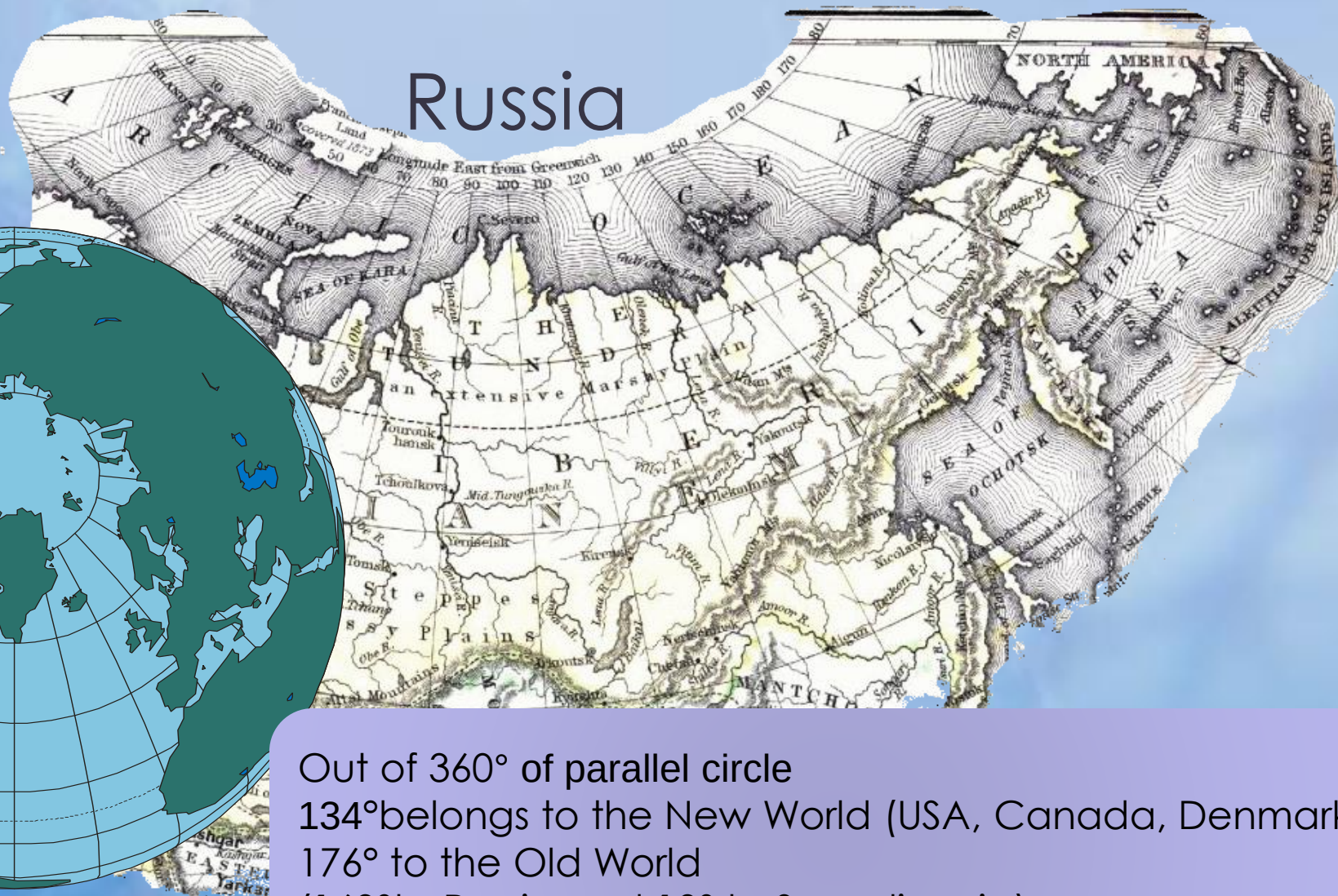
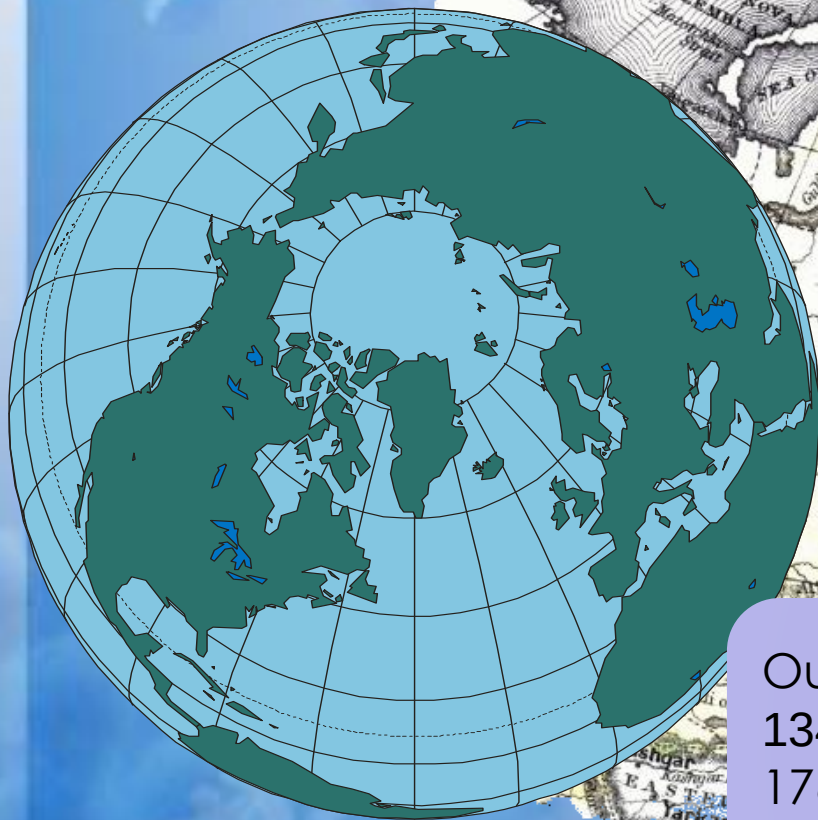


Signature of the holder of the certificate



- It is said that a crew's ice certificate could be a solution, is that true or are we creating a false feeling of safety?

Russia



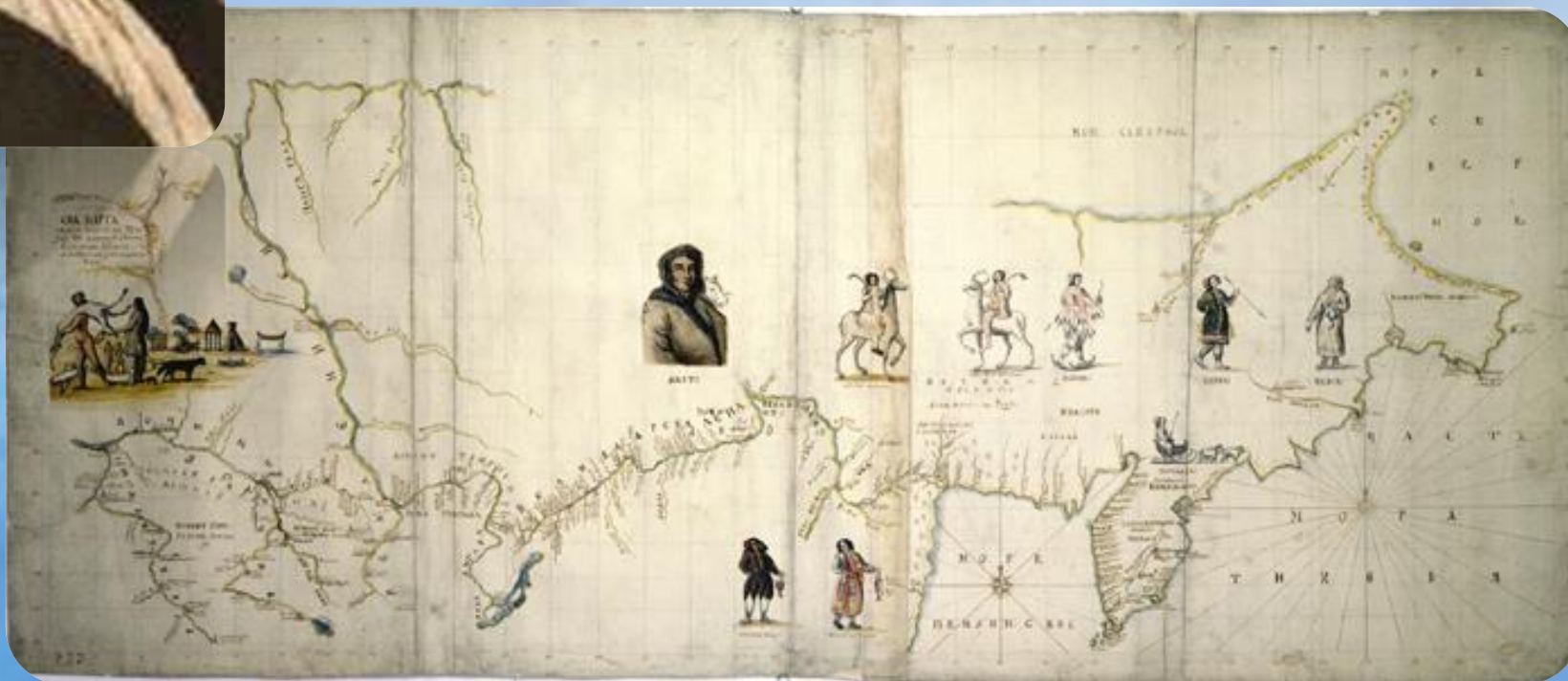
Out of 360° of parallel circle
134° belongs to the New World (USA, Canada, Denmark)
176° to the Old World
(160° to Russia and 10° to Scandinavia)



- **1728 - the first North Expedition**

Vitus Bering, a Danish sea captain in the Russian Navy, sails through the Bering Strait

- Vitus Bering
- Martyn Shpanberg
- Alexey Chirikov



Admiral Kolchak (1874-1920)



- › Ice breakers «Vaigach», «Taymyr»
- › Discovery of the Northern Sea Route
- › Charts created by Kolchak during his expedition were used till the end of 1950ies.

Icebreaker "Ermak" (1899), designed by admiral Makarov



Ice Breaker "KRASIN"

1923



1932

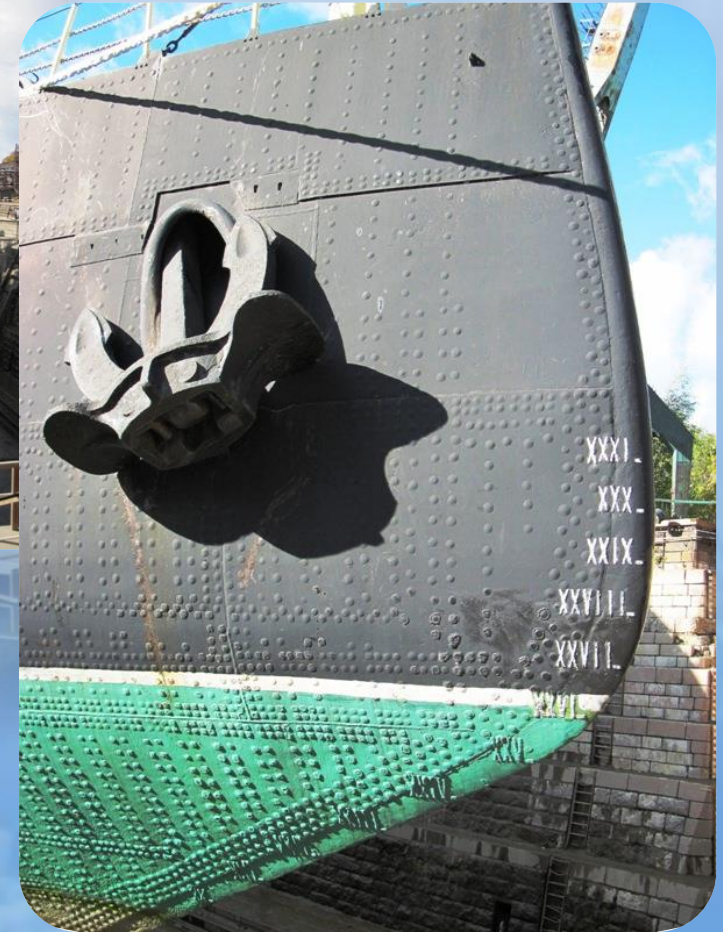


2002



1916, built in the UK, improved design by admiral Makarov

Ice Breaker Krasin was repaired recently.
Russia is still the only country with nuclear ice
breakers



Admiral Makarov State University of Maritime and Inland Shipping

- ◎ 1934 – establishment of Hydrographic Institute of Glav Sev Mor Put (Northern Sea Route Administration), 1945 renaming after Admiral Makarov)
- ◎ The only educational establishment in former soviet union countries training specialists for Arctic
- ◎ More than 3100 professionals graduated from Arctic Faculty (oceanographers, meteorologists, hydrographers)

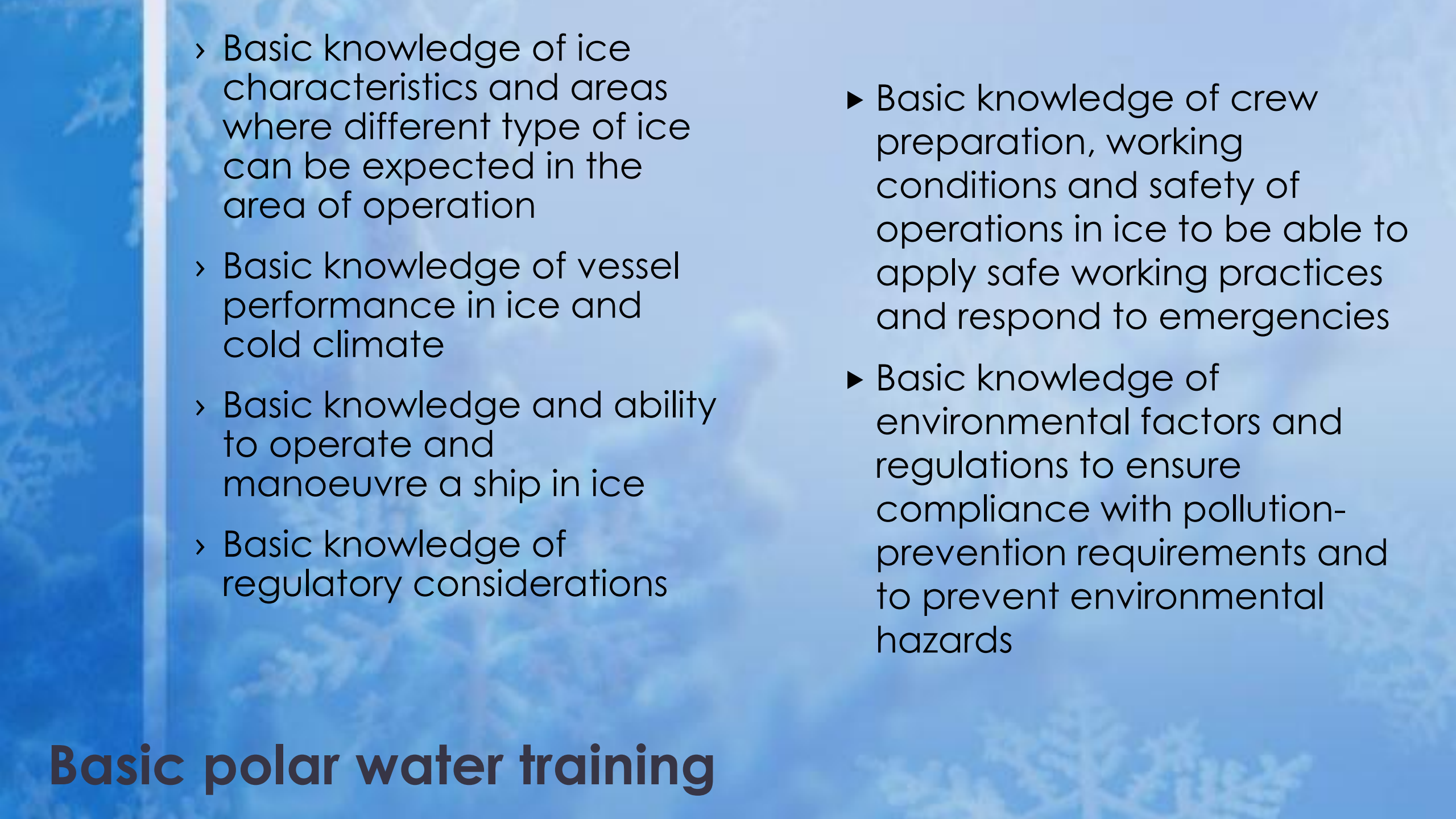


Training experience

› **Instructors' staff**

- › During the course we invite:
 - Experienced Ice Master who worked at the NSR for many years
 - Experienced Ice Breaker Master
 - Experience Ice Pilot
 - Naval architects



- 
- › Basic knowledge of ice characteristics and areas where different type of ice can be expected in the area of operation
 - › Basic knowledge of vessel performance in ice and cold climate
 - › Basic knowledge and ability to operate and manoeuvre a ship in ice
 - › Basic knowledge of regulatory considerations
 - Basic knowledge of crew preparation, working conditions and safety of operations in ice to be able to apply safe working practices and respond to emergencies
 - Basic knowledge of environmental factors and regulations to ensure compliance with pollution-prevention requirements and to prevent environmental hazards

Basic polar water training



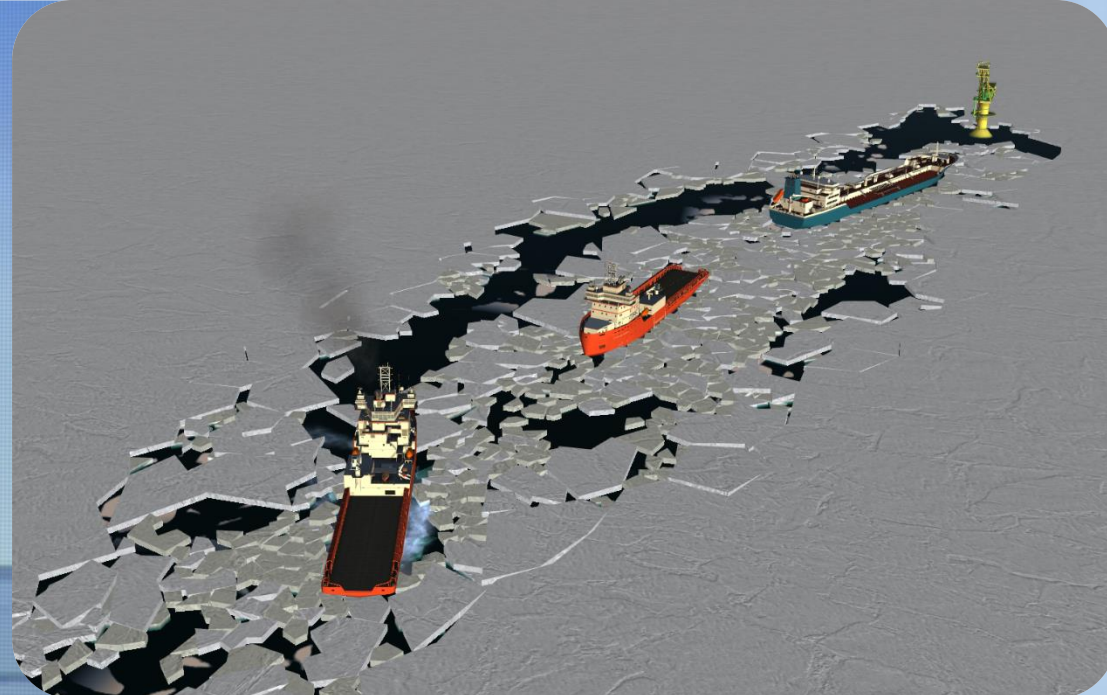
- ▶ Knowledge of voyage planning and reporting to be able to plan and conduct a voyage in polar waters
 - ▶ Knowledge of equipment limitations
 - ▶ Knowledge and ability to operate and manoeuvre a ship in ice to be able to manage the safe operation of vessels operating in ice-covered waters
- › Knowledge of safety to be able to maintain safety of the ship's crew and passengers and the operational condition of life-saving, firefighting and other safety systems in polar waters

Advanced polar water training



**Model course development
instructor's manual – course compendium**

Makarov + Krylov



Practical IceNav Training on board city icebreaker

This add-on course includes trip on board in ice conditions and adds practical skills and more information on ice navigation such as:

- › Safe working mooring practice in cold weather
- › Navigation and use of propulsion in variable ice field and packed ice



ICE SELFIE – IMPORTANT PART OF TRAINING



PRACTICAL SUPERVISED OPERATION BY AZIMUTH PROPULSION SYSTEM



NON-POLAR CREW TRAINING IN NON-POLAR ENVIRONMENT





**Environmental limitations,
Lack of practical experience,
Limited area for exercises**



LNG/C “Christophe De Margerie”

First YAMALMAX for **YAMAL LNG**



Speed & Cruising Range

Service Speed : 19.5 knots

Cruising Range : 10,000 nautical miles

Owner: SOVCOMFLOT

Builder: DSME

Class RS+BV, Arc 7

Keel Laid: 2015.11.16

Launched: 2016.01.15

Delivered: 2017.03. 24

Principal Dimensions

Length Over All : 299.000 m

Breadth (Molded) : 50.000 m

Scantling Draft (Molded) : 13.000 m

LNG Cargo capacity 172,6K m3

Main Generator Engine

Type and number : Wärtsilä 12V50DF x 4 sets, 9L50DF x 2 sets

Propulsion Unit

Type and Number : ABB POD x 3 sets

Rated Motor Power : 45,000 kW

Christophe de Margerie – the first in the series



Vessel successfully passed Ice Trials over February and March 2017 performing ice operations in the remote Kara and Laptev Seas.

MV Boris Vilkitsky

Modern LNG, 2nd ship in Yamal Project series

Started operation November last year

Ice conditions were moderate (~ 1 meter)

Able to operate without Icebreaker (mild conditions)



**Admiral Makarov
State University of Maritime
and Inland Shipping**



INSTRUCTOR

Igor Zlodeev

- ❖ Instructor of the Makarov Training Centre.
- ❖ Master Mariner, Ice-pilot.
- ❖ 25 years of Arctic navigation experience and the ice-navigation experience in Canada and the USA navigating regions.
At the moment he works as an instructor for Makarov Training Centre of the Makarov State University of Maritime and Inland Shipping.

**PROFESSIONAL
DEVELOPMENT PROGRAMMES
INSTITUTE**

Ship features

- ❖ Taking into consideration her big size (breadth ca. 50 m) the bridge wings were not well heated - staying at the end of wing you should wear a warm clothes
- ❖ Ergonomic issues side windows angle does not allow to see ship's sides.
- ❖ VHF station too far from azi-control station.





PROTECTION FROM COLD

Protective shields and
coverings



- › PSK to grab bag scenario – does not work - it is simply not enough space inside lifeboat...



LIFESAVING APPLIANCES

Ship was equipped with normal life raft, not the polar edition

As well as lifeboat – both do not take into account requirement to stay in for 5 days – no toilet, no ventilation, insufficient room for well etc.

No special means were also provided for boarding them



LIFESAVING APPLIANCES

The tent was easy to install onboard the ship, but it is too big and too high to be installed in real ice conditions with wind



(Name of shipping line,agent,etc.)

IMO CREW L

☐ Arrival ☒ X

1. Name of ship		2. Port of arrival / departure	
BORIS VILKITSKY		Okpo, S. Korea	
4. Nationality of ship		5. Port arrived from	
Cyprus		N/A	
7. No.	8. Family name, given name	9. Rank/Rating	10. Nationality
1		Master	Indian
2		A / Master	Indian
3		Tr. Master	Indian
4		AZ C/O	Russian
5		ACO / ICE NAV	Russian
6		ACO	Indian
7		ACO / ICE NAV	Russian
8		2/O	Indian
9		2/O	Russian
10		2/O	Russian
11		2/O	Pakistani
12		3/O	Russian
13		3/O	Russian

Convention on Facilitation of International Traffic

Crew compliment

50 people

Human factor?

The LNG carrier *Boris Vilkitsky*, a new ice-class vessel transporting natural gas from Russia's Yamal LNG project, disregarded a number of safety rules on an Arctic voyage to the Port of Sabetta.

- › The vessel, operated by a Dynagas LNG Partners, a joint venture by Dynagas, Sinotrans, and China LNG Shipping, entered the Northern Sea Route (NSR) despite the inoperability of its stern thrusters and port steering column.
- › This malfunction, which occurred at least 10 days prior, limited the vessel's capabilities and reduced its ice-classification from Arc7 to Arc4, prohibiting it from operating independently or even with an icebreaker escort in the waters of the Kara Sea. In violation of the rules the *Boris Vilkitsky* proceeded into the ice-covered waters of the NSR.
- › The Russian Northern Sea Route Administration (NSRA) calls the incident a gross violation of the Rules of navigation in the waters of the NSR and states that "the vessel did not have the right to enter the water area of the Northern Sea Route. By its actions, the ship poses a threat to the safety of navigation, as well as the protection of the marine environment."



Граница акватории СМП

ARCTIC VIKING
FABERG

арх. Новая Земля

EDUARD TOLL
"ЯМАЛ КРЕЧЕТ"
"ЯМАЛ ИРВИС"

м. Желания

"ТОРИЙ АРШЕНЕВСКИЙ"

WEICHELSTERN

WOLGASTERN

Карское море

Kara Sea

BORIS VILKITSKY

Координаты 77° 15.237' N - 69° 37.789' E
Скорость 10.30 узл. Курс 125°
Дата 09.04.2018 12:30:46 UTC
Источник Спутник. АИС

BORIS VILKITSKY

Координаты 75° 35.700' N - 74° 33.700' E
Скорость 12.00 узл. Курс 153°
Дата 10.04.2018 01:44:27 UTC
Источник Спутник. АИС



BORIS VILKITSKY

Координаты	72° 40.758' N - 73° 51.450' E	Скорость	0.10 узл.
Дата	12.04.2018 06:47:36 UTC	Курс	130.2°
IMO	9768368	PPP	—
MMSI	212654000	PMPC	—
		Позывной	5BST4
		Источник	Спутник. АИС

ШТУРМАН КОЩЕПЕВ

"ТАЙМЫР"

ШТУРМАН ОВЦЫН
ИГДИЯ

"ШТУРМАН МАЛЫГИН"

Ob Bay

What's on the other side of the coin?





Ice horn





NAVIGATING IN ICE

VOY. 170 ST. PETERSBURG & MOSCOW

1. Have the following been informed of the ice conditions?

- the Master

- the engine room

- the crew

2. Have watertight doors been shut, as appropriate?

3. Has speed been adjusted (N.B. momentum varies at the square of the ship's speed)?

4. Have instructions been issued on the following matters?

- monitoring ice advisory service broadcasts

- transmitting danger messages in accordance with SOLAS 1974 Chapter V, Regulation 2(a)

DATE: 04 JAN. 2017

DATE: 04 JAN. 2017

5(a)

- transmitting danger messages in accordance with SOLAS 1974 Chapter V, Regulation

Vessels, barges or floating objects may accumulate atmospheric & sea icing, which influences the stability characteristics and port operations



Icing



Voyage: SS L

Date: 21 / 01 / 2018

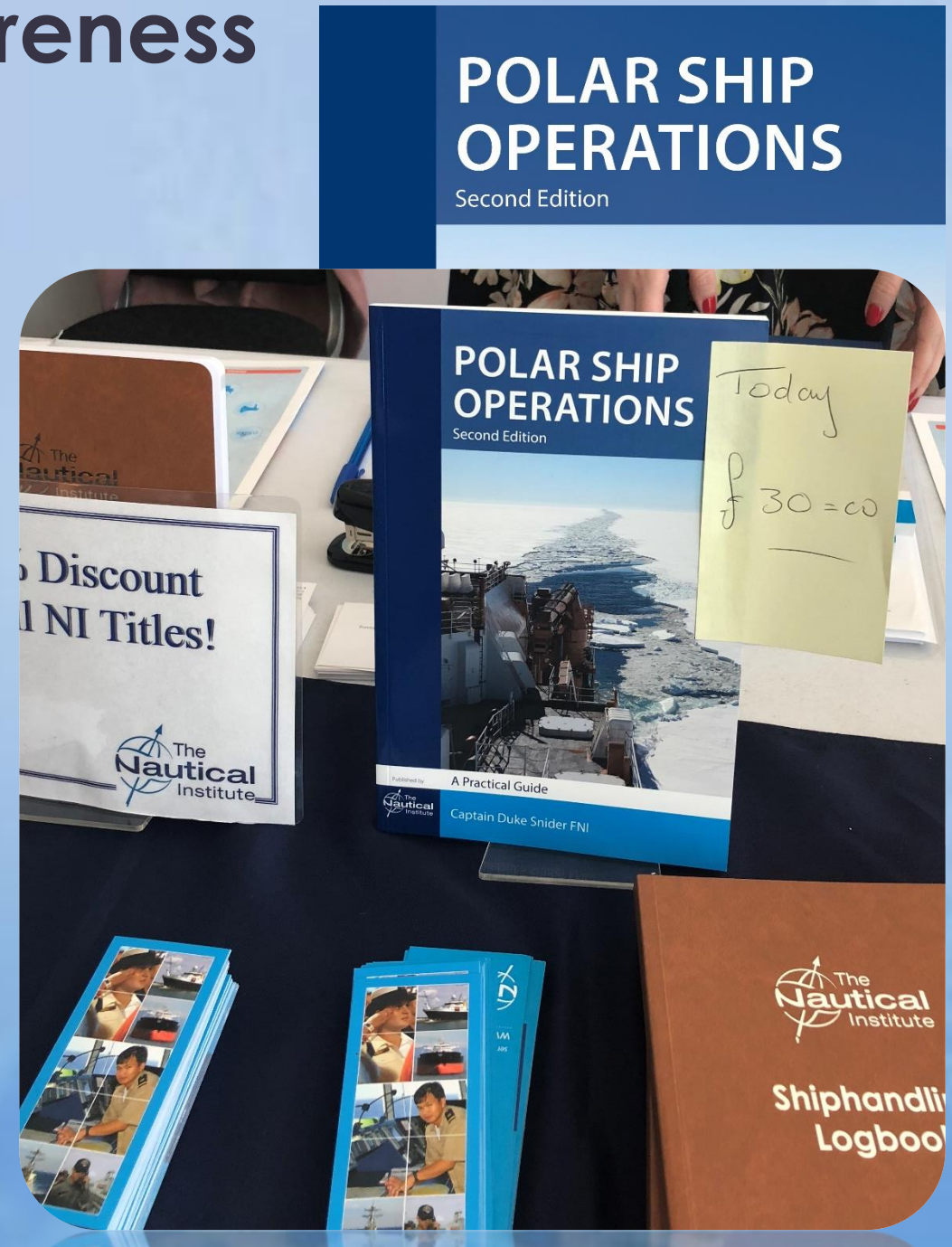
Local time: 1200

Wrong template?

No	Action	Yes/No	Taken by
1.	Have the following been informed of the ice conditions? The Master The Engine room The crew	YES	Officer in charge of navigational watch
2.	Have watertight doors been shut, as appropriate?	YES	Master
3.	Have speed and course been adjusted as necessary? (N.B. momentum varies as the square of the ship's speed)	YES	Master
4.	Have instructions been issued on the following matters? Monitoring ice advisory service broadcasts Transmitting danger messages in accordance with SOLAS 1974 Chapter V, Regulation 2 (a)	YES	Master

(1) Safety awareness

- › Frankly speaking, if ISM procedures are well implemented on board you already should have everything you need. But unfortunately this is not always a case. Even the Polar Code insists on the Polar Water Operation Manual.
- › Hopefully, nowadays a number of good publications on this topic are available including NI ice Navigation by David Snider as well as many others. Though these all are very good books, seafarers are often in need of something more simple, more straightforward. All known books are intended for deck officers, nothing for engineers and ratings.



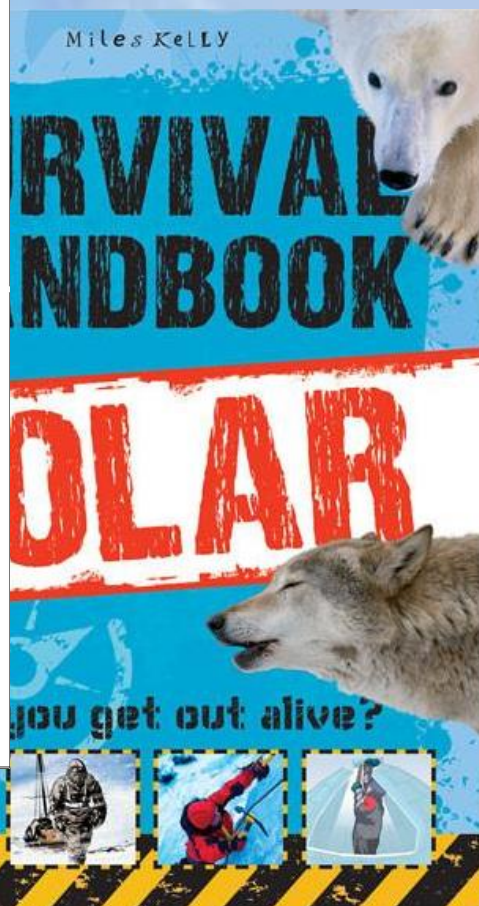
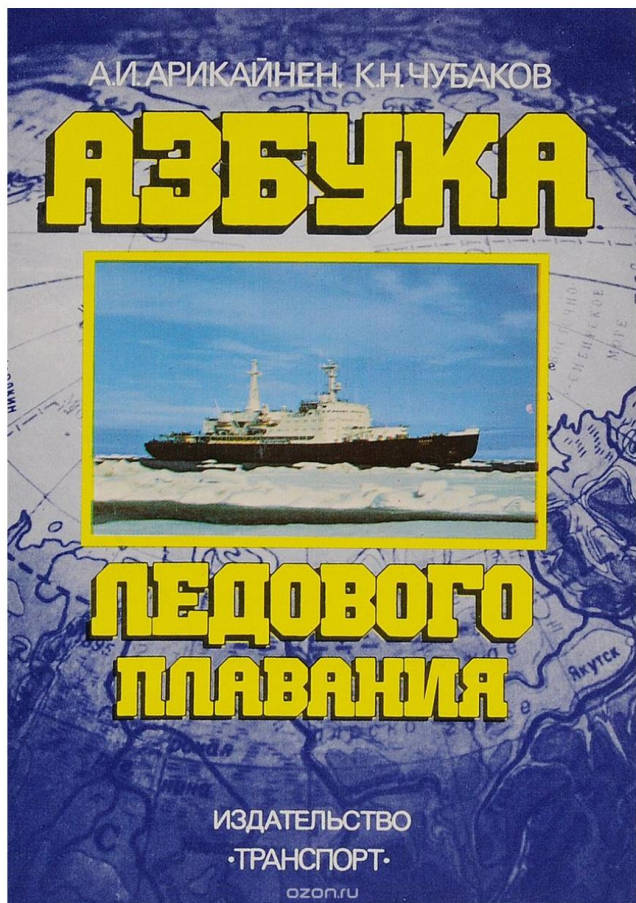
(1) Safety awareness

- › I hope that here at Forum we are in a good position to rectify this. The idea is not to rewrite everything from scratch but just to collect all that we already have, filling the gaps we identified.

These guidelines could be discussed via correspondence group or meeting if needed. Not only navigation but survival and first aid as well as safe working practices onboard should be included

We should decide if English version is enough or should it be English/French/Russian?

Prepared guidelines could be disseminated via Arctic Shipping Best Practices Information Forum website, via National Maritime Administrations or via Port State Control offers visiting the ship in ice area

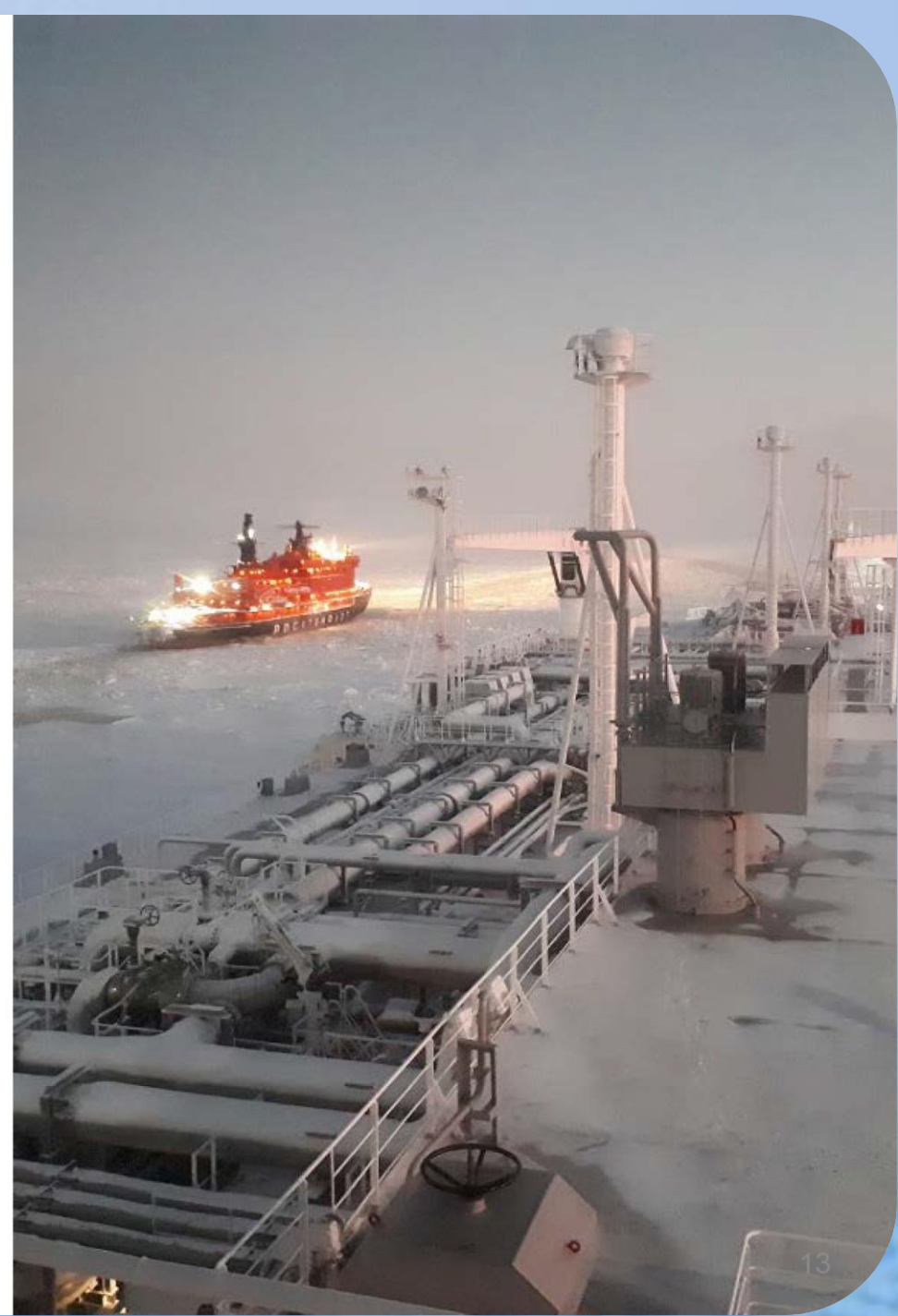


Winter Navigation on the
River and Gulf of St. Lawrence

Practical Notebook for Marine Engineers and Deck Officers
January 2005

Operational Project Statistics

- Project plan totalling 1534 tasks and sub task
- Total time spent 33 months
- 13,000 plus emails generated
- 249 conference and video calls
- 176 individuals consulted
- 49 Individual Organisations consulted
- 23,769 man hours of work undertaken by the team on top of their day jobs



Management of Change

- Strict Process Observed Bi-weekly
- Reference documents scrutinised
- Changes implemented where necessary
- Inputted into Ship Management System
- Electronic Format
- Live document.

79 Documents and
468 pages later

Paper safety?



Date: 15th March 2018

Attendees:	James Thomson	Fleet Manager
	Andrew Roberts	Marine Manager
	Dilys Lim	HSEQ Manager
	Roger Barber	Facilitator

Item 1) The following documents were reviewed for final approval by the MOC board.

- a) SPXXXX Polar Arctic Jurisdiction – Approved with no changes.
- b) SPXXXX Russian Northern Sea Route Rules of Navigation (Polar) - Approved with the following changes:
 - a. Page 5: Fuel capacity to include LNG in addition to HFO and MDO
- c) SPXXXX Permit for Russian Northern Sea Route (Polar) – Approved with the following changes:
 - a. Page 2: Where the following statement is, make it into bold type to reflect the importance:
The application and attached documents must be submitted to the NSR Administration not earlier than 120 calendar days and not later than 15 working days before the estimated date of arrival in the Northern Sea Route.
- d) FMXXXX Application for Navigation in Russian Northern Sea Route (Polar) - Approved with no changes
- e) FMXXXX Appendix to Application for Navigation in Russian Northern Sea Route (Polar) - Approved with no changes
- f) RFXXXX Criteria for Admission to Russian Northern Sea Route (Polar) - Approved with no changes
- g) SPXXXX Canadian Polar Arctic Waters - Approved with no changes
- h) SPXXXX Canadian Arctic Ice Regime Shipping System (Polar) - Approved with no changes.
- i) SPXXXX Polar Class Vessels – Operational Assessment - Approved with no changes
- j) SPXXXX Survival Equipment for Polar Class Vessels – Approved with no changes
- k) SPXXXX Daily Inspection of Exposed Safety and Life-saving Equipment – Approved with no changes
- l) FMXXXX Exposed Safety and Life-saving Equipment Checklist (Polar) – Approved with no changes

(2) Ice navigation courses advisory

- › There are a number of good courses available though for now there is no accreditation system, and we are in position to make at least a list of such courses available and promote those who complies with high standards of training
- › Again we are here to discuss how much shall we go into accreditation process. The NI is going to develop one of its own like DP Training Scheme which we all familiar with...

BALTICE.org
Baltic Icebreaking Management

Ships, icebreakers, ports...

[Home](#) [Icebreaking & Traffic](#) [Ice & Weather](#) [Reporting & Instructions](#) [Training & Courses](#)

Ice Training Movies

[f](#) [t](#) [in](#) [G+](#) [e](#) [+](#)

Ice training movie can be downloaded from the link below, or it can be used as a short course of safe winter navigation. More information from <http://shipgaz.com/courses/baltice-ice-navigation>.

[Download full video](#)

Compressed ZIP format, 720x576, 119MB

Part I - Ice conditions and Types



Ice Navigation Courses

On the following links you can find the ice navigation course providers, schedules and course program.

[Aboa Mare](#)

[Marstal Navigationskole Denmark](#)

[Kalmar Navigation Institute](#)

[Makarov Training Centre Russia](#)

Before linking the contact information to the baltice.org web pages, a course organizer should contact by e-mail winternavigation@ita.fi. The course will then be evaluated by BIM according to certificate and references.

[Description of the icebreaking process](#)

Date: 24 / 01 / 2018

Local time: 1200

No	Action	Yes/No	Taken by
1.	Have the following been informed of the ice conditions? The Master The Engine room The crew	YES	Officer in charge of navigational watch
2.	Have watertight doors been shut, as appropriate?	YES	Master
3.	Have speed and course been adjusted as necessary? (N.B. momentum varies as the square of the ship's speed)	YES	Master
4.	Have instructions been issued on the following matters? Monitoring ice advisory service broadcasts Transmitting danger messages in accordance with SOLAS 1974 Chapter V, Regulation 2 (a)	YES	Master

(3) checklists

It is not an easy task as it seems. It should be neither too long (we have manual for this) nor too short as it becomes too general and useless

Ideally it should be a supplement for guidelines we develop

The checklists should be open, so the companies would be able to modify them and make them ship specific

› We should decide If English version is enough or should it be English/French/Russian?

1. He

2. Have watertight doors been shut, as appropriate?

3. Has speed been adjusted (N.B. momentum varies at the square of the ship's speed)?

4. Have instructions been issued on the following matters?

- monitoring ice advisory service broadcasts
- transmitting danger messages in accordance with SOLAS 1974 Chapter V, Regulation 2(a)

DATE: 04 Jan. 2017

 *Thank you
for attention!*

Vladimir Kuzmin

